

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and form part of the specification, illustrate an embodiment of the of the present invention and together with the description, serve to explain the principles of the invention. In the drawings:

Figure 1 shows an embodiment of the invention,

Figure 2 shows a detail of the filter system,

Figure 3. shows a second embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to Figure 1, The remote extraction system (1) consists of a sampling container (2), custom-designed with a wide mouth screw cap (3) at one end, and a quick connect fitting (4) at the other, a stainless steel pressure vessel (5), and an in-line filter (6). The stainless steel pressure vessel (5) has a screw top lid (7). The body of the pressure vessel (5) has a bulkhead quick connect fitting (8) which is adapted to fit a gas line (9). The extracts are collected in the sampling container (2) consisting of a tedlar bag equipped with a quick connect fitting or a glass syringe having a quick-connect fitting (4) at one end and a wide mouth opening and cap (3) at the other. Eyelets (10) are provided so that may be placed on a rack (not shown) and inserted into the pressure vessel (5). The system is designed to fit into commercially available TCLP agitators.

In operation, the sample and extraction fluid is introduced into the tedlar bag

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(2) through the wide mouth screw cap (3). The pressure vessel (5) is opened and the sealed, zero headspace tedlar bag (2) is placed inside the vessel (5) with the quick connect fitting (4) attached to the quick connect fitting (11) inside the lid (7). The lid (7) of the pressure vessel (5) is closed and sealed. The gas line (9) is attached to the quick-connect fitting (8) at the base of the pressure vessel (5) allowing the gas flow to be started. Any gas or liquid under pressure can be used to pressurize the vessel. An in-line filter (6) with a quick-connect fitting (12) is attached to the lid (7) of the pressure vessel (5). The gas flow will compress the tedlar bag (2) inside the pressure vessel (5) until liquid is seen at the fitting (11). The gas line (9) is disconnected and the quick connect fitting (12) on the downstream side of the filter (6) is removed maintaining pressure inside the pressure vessel (5).

The pressure vessel (5) is placed in a rotator and extracted for 18 hours. The pressure vessel (5) is removed from the rotator and placed upside-down on a rack. A second tedlar bag with a quick connect fitting (not shown) is attached to the fitting on the downstream side of the filter (12) and the gas line (9) attached to the fitting (8) on the side of the pressure vessel (5). Gas is introduced to generate pressure inside the vessel (5) and to compress the bag and force the extract into the second tedlar bag for collection.

As shown in figure 2, the filter (12) consists of a glass filter (13) sandwiched between two stainless steel screens (14, and 15) and inserted inside a two Teflon blocks (16, and 17). The Teflon blocks have centered bore holes (18) approximately 1/4 inch in diameter. The filter (12) is held together by two screw and nut (19, and 20) combinations.

Figure 3 shows another embodiment of the invention, the sampling container (21) is a Teflon bottle (21). The stainless steel canister (22) is equipped with a wide

mouth lid (24) that is either screwed on or acts as a flip top. The lid (24) has a quick connect fitting (25) that allows the Teflon bottle (21) has a fitting (30) to connect with upstream side of the filter (26). A second quick connect fitting (27) is mouth lid (24) that is either screwed on or acts as a flip top. The lid (24) has a quick connect fitting (25) that allows the Teflon bottle (21) ~~has a~~ with a fitting (30) to connect with an upstream side of the filter(26). A second quick connect fitting (27) is attached to the down stream side of the filter (26). The canister (22) is adapted to receive a manual piston (23). A threaded opening (29) in the canister (22) is fitted with the manual piston (23), whereby as the threaded piston rod (28) is turned pressure is asserted on the Teflon bottle (21) to remove the extract from the Teflon bottle (21) into a tedlar bag or bottle. A thread or cord can be tied around the bottle (21) so that as the piston (23) compresses the bottle (21), the bottle (21) compresses in a uniform manner.

The foregoing description of the preferred embodiment of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed, and obviously many modifications and variations are possible in light of the above teaching.